PATENT COOPERATION TREATY

PCT

TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PG 06170WO		FOR FURTHER ACTION	See Form PCT/IPEA/416			
International application No.		International filing date (day/month/yea	r) Priority date (day/month/year)			
PCT/EP2004/012698		10.11.2004	14.11.2003			
Internationa	l Patent Classification (IPC) or nat	onal classification and IPC				
F16D3	F16D33/04, F16D33/06, F16D33/16					
Applicant						
VOITH TURBO GMBH & CO. KG						
1	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.					
	nis REPORT consists of a total of	7	acluding this cover sheet.			
3. Th	nis report is also accompanied by A					
a.	(sent to the applicant and	to the International Bureau) a total of	5 sheets, as follows:			
	sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).					
	•	ede earlier sheets, but which this Author	ity considers contain an amendment that goes beyond			
	the disclosure in the Box.	e international application as filed, as in	dicated in item 4 of Box No. I and the Supplemental			
b.	(sent to the International	Bureau only) a total of (indicate type and	number of electronic carrier(s))			
, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).						
4. Tł	nis report contains indications relati	ng to the following items:				
	Box No. I Basis of the	report				
	Box No. II Priority					
Box No. III Non-establishment of opinion with regard to novelty,		inventive step and industrial applicability				
	Box No. IV Lack of uni	ty of invention				
	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement					
	Box No. VI Certain documents cited					
	Box No. VII Certain def	ects in the international application				
	Box No. VIII Certain obs	ervations on the international application				
Date of submission of the demand Date of			on of this report			
Name and n	nailing address of the IPEA/EP	Authorized office	r			
Facsimile N	0.	Telephone No.				

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/012698

Вох	No. I	Basis of the report					
1.		n regard to the language , this report is based on the internaticated under this item.	onal application in the language in	which it was filed, unless otherwise			
		This report is based on translations from the original languments which is the language of a translation furnished for the pure		,			
		international search (Rule 12.3 and 23.1(b))	international search (Rule 12.3 and 23.1(b))				
		publication of the international application (Rule 12.	4)				
		international preliminary examination (Rule 55.2 and					
2.	rece	regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the ing Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to port):					
		the international application as originally filed/furnished					
	\boxtimes	the description:					
		pages <u>1-22</u>		as originally filed/furnished			
		pages*	received by this Authority on				
		pages*	received by this Authority on				
	\boxtimes	the claims:					
		nos.		as originally filed/furnished			
		nos.*	as amended (together				
		nos.* 1-18	_ received by this Authority on	18.08.2005 with letter of 16.08.2005			
		nos.*	received by this Authority on				
	\boxtimes	the drawings:					
		sheets _ 1/4-4/4		as originally filed/furnished			
		sheets*	received by this Authority on _				
		sheets*	_ received by this Authority on _				
		a sequence listing and/or any related table(s) – see Suppler	mental Box Relating to Sequence L	isting.			
3.		The amendments have resulted in the cancellation of:					
		the description, pages					
		the claims, nos.					
		the drawings sheets/figs					
		the sequence listing (specify):					
		any table(s) related to sequence listing (specify):					
4.		This report has been established as if (some of) the amer they have been considered to go beyond the disclosure as					
		the description, pages					
		the claims, nos.					
			the drawings, sheets/figs				
		the sequence listing (specify):					
		any table(s) related to sequence listing (specify):					
*	If ite	em 4 applies, some or all of those sheets may be marked "su	perseded."				

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International application No.
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement				
1. Statement				
Novelty (N)	Claims _ 1-18	_ YES		
	Claims	_ NO		
Inventive step (IS)	Claims _ 1-18	_ YES		
	Claims	_ NO		
Industrial applicability (IA	A) Claims 1-18	YES		
	Claims	_ NO		
Citations and explanations (R	Rule 70.7)			
	ais report makes reference to the following			
	ocument:			
D1	: US-A-2 731 119 (BURDETT HARRY W ET AL) 17			
	inuary 1956 (1956-01-17)			
2. D1	is regarded as the prior art closest to			
th	ne subject matter of claim 1. It discloses			
(t	the reference signs in parentheses refer to			
D1	.):			
a	hydrodynamic coupling			
– ha	ving an input that can be coupled to a			
dr	rive (28) and an output that can be coupled			
to	a drive output (10);			
– ha	ving a hydrodynamic component comprising at			
le	east one primary impeller (24) and a			
se	econdary impeller (18) which, together, form			
an	operating chamber that can be filled with			
ор	perating material;			
– ha	ving a switchable coupling (50,52)			
CO	emprising at least two coupling elements			
th	at can be operatively linked in a			

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement frictionally engaged manner directly or indirectly via intermediate elements, the two coupling elements being one first (50) coupling output element that is at least indirectly connected in a rotationally fixed manner to the output and an adjusting device (18) associated therewith; having a stationary or rotating housing (16) that surrounds at least one of the impellers while forming an adjoining chamber (26); the adjusting device (18) of the switchable coupling (50,52) being arranged in the adjoining chamber (26) and forming a first operating material supply channel (42) or chamber, and being actable upon by the pressure prevailing therein; the operating material supply channel (42) or chamber being connectable, at least indirectly, to an operating material supply source (not shown); having means (18) for influencing the transmission behavior of the hydrodynamic component (displacement of the secondary impeller) comprising at least one built-in mechanical part (18) that acts, at least indirectly, on the operating circuit that adjusts itself in the operating chamber; having an adjusting device (piston 18) associated with the built-in mechanical part and means for acting upon said device with a differential pressure that results from the pressure in the first operating material

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

guide channel or chamber or in a channel or chamber coupled thereto or in the housing interior (26), and from a control pressure (23).

2.1. The subject matter of claim 1 differs from the known hydrodynamic coupling in that

the means comprises a built-in mechanical part that is arranged on an impeller in the form of separate elements that can be introduced into the operating chamber or of elements that form portions of the impeller walls, and said mechanical part acts, at least indirectly, on the operating circuit that adjusts itself in the operating chamber.

Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)).

- 3. Therefore, the problem to be solved by the present application can be regarded as that of influencing, in certain areas, the moment that can be absorbed by the hydrodynamic coupling, namely in areas of high slippage.
- 3.1. The solution to this problem as proposed in claim 1 of the present application involves an inventive step for the following reasons (PCT Article 33(3)):

The additional features of claim 1 are not

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
		rendered obvious by the known prior art.	
	4.	Claims 2-18 are dependent on claim 1 and	
		therefore likewise meet the PCT requirements	
		for novelty and inventive step.	

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- 5. Reference sign "A" for the output (claim 1 was not found in the drawings.
- 6. Reference sign "46" for the adjoining chamber (claim 1) was denoted as "47" in the description (page 13, line 29) and in figures 1-4.
- 7. Claim 14 and the description (page 19, line 29 to page 20, line 2) appear to contradict each other. It is not clear whether or not the built-in mechanical parts are connected to the secondary impeller.